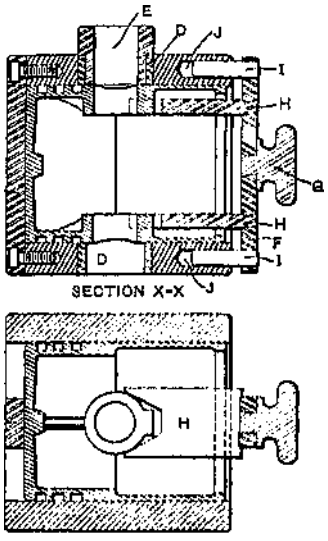
of o.oo5-inch stock was placed between the clamp-bar and seat while boring and grinding; this shim was taken out later to allow for a little clearance. After the clamp-bar was fitted and bored, the holes for the hardened bushings *D* were bored and the bushings fitted. These bushings were long enough to reach through the large bore so that they could be ground flush with the inside of the jig.

The jig was next set up on the table of a Heald cylinder grinder and the holes in the bushings ground in line and true



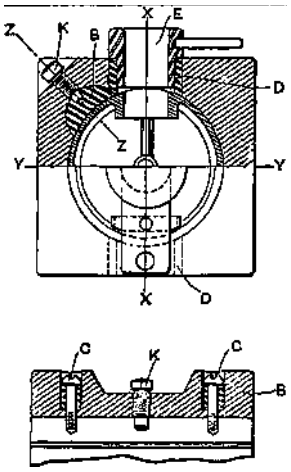


Fig. **23.** **Jig** used for Cross-drilling Pistons

to size. The jig was then placed on one side with the bushings in a horizontal plane and the large hole finished to size by grinding. To be sure that the holes in the bushings would be perfectly central with the large bore, an arbor was ground to a snug fit for the bushings and, the large hole was gaged from it, measuring from the wall of the large hole to the arbor until both sides were exactly the same. The hole was then finished 0.003 inch larger than the piston to be worked on. Two slip bushings *E* were made to fit the bushings in the jig,